

SERVICE INSTRUCTION

SI 940.91

AIRBUS HELICOPTERS (EUROCOPTER)

AS350 & AS355 SERIES

QUICK RELEASE CARGO BASKET

MODEL 940, EXTRA-LONG BASKET ASSEMBLY

ONE-OFF CUSTOM BASKET ASSEMBLY

REINFORCED STRUCTURE WITH CUTOUTS AND COVERS

P/N 94010, S/N 94001-57

FOR PORTABLE SURVEY EQUIPMENT

STRUCTURAL PROVISIONS ONLY

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1.0 INTRODUCTION

This one Model 94001 Extra-Long Cargo Basket Assembly has been reinforced in order to add cutouts and cover plates to facilitate the installation of portable survey equipment.

These instructions supplement the information contained in the required documents only to the extent noted.

2.0 REQUIRED DOCUMENTS

Aero Design Ltd. Cargo Basket Installation Drawing 94001, Revision 1

Aero Design Ltd. Instructions for Continued Airworthiness ICA764.90, Revision 6, for Airbus Helicopters AS350 and AS355 Series Helicopters, Basket Model 764, 776, 784, and 940

Aero Design Ltd. Flight Manual Supplement FMS764.91, Revision 4, for Airbus Helicopters AS350 and AS355 Series Helicopters, Basket Model 764, 776, 784, and 940

3.0 WEIGHT AND BALANCE

The additional weight for the reinforcing and covers is to be considered payload and these amounts are to be subtracted from the 300 lb maximum payload limit.

Item	Weight	Net Increase
S/N 94001-57 Modified Basket Assembly Includes Lid Walkway, Top Cover Plates (Fwd & Aft) & hdwr	72.5 lb	7.7 lb
Center Bottom Cover Plates (3 places) and hardware	2.7 lb each	8.1 lb
End Bottom Cover Plates (2 places) and hardware	2.9 lb each	5.8 lb
End Cover Plates (Fwd & Aft) and hardware	0.5 lb each	1.0 lb
Total		22.6 lb

The Lid's Top Cover Plates must be installed for egress safety purposes.

The allowable equipment payload for an empty S/N 94001-57 Basket Assembly with all Bottom and End Cover Plates installed:

$$= 300.0 - 22.6 = 277.4 \text{ lb}$$

Updated W&B info for ICA 764.90 Table 25.1 is as follows:

Configuration	P/N	Standard Units				
		Weight	Longitudinal		Lateral	
		lb	Arm in	Moment in-lb	Arm in	Moment in-lb
Extra-Long Basket Installation *S/N 94001-57 with top covers						
Low	94001-01-01	72.5	136.0	9860.0	49.3	3574.3
Center Bottom Cover Plates	94091-05	2.7	117.4	317.0	49.3	133.1
	94091-05	2.7	136.0	367.2	49.3	133.1
	94091-05	2.7	154.6	417.4	49.3	133.1
End Bottom Cover Plates	94091-06	2.9	98.1	284.5	49.3	143.0
	94091-06	2.9	173.9	504.3	49.3	143.0
End Cover Plates	94091-07	0.5	88.3	44.2	49.3	24.7
	94091-07	0.5	183.8	91.9	49.3	24.7
High	94001-02-01	72.5	136.0	9860.0	48.6	3523.5
Center Bottom Cover Plates	94091-05	2.7	117.4	317.0	48.6	131.2
	94091-05	2.7	136.0	367.2	48.6	131.2
	94091-05	2.7	154.6	417.4	48.6	131.2
End Bottom Cover Plates	94091-06	2.9	98.1	284.5	48.6	140.9
	94091-06	2.9	173.9	504.3	48.6	140.9
End Cover Plates	94091-07	0.5	88.3	44.2	48.6	24.3
	94091-07	0.5	183.8	91.9	48.6	24.3
Cheek Pod Compatible	94001-03-01	72.5	136.0	9860.0	51.4	3726.5
Center Bottom Cover Plates	94091-05	2.7	117.4	317.0	51.4	138.8
	94091-05	2.7	136.0	367.2	51.4	138.8
	94091-05	2.7	154.6	417.4	51.4	138.8
End Bottom Cover Plates	94091-06	2.9	98.1	284.5	51.4	149.1
	94091-06	2.9	173.9	504.3	51.4	149.1
End Cover Plates	94091-07	0.5	88.3	44.2	51.4	25.7
	94091-07	0.5	183.8	91.9	51.4	25.7

Right side installations shown. Left side lateral arm is negative, installation P/N 94001-XX-02

Table 3.1 – Weight And Balance – Standard Units

Configuration	P/N	Metric Units				
		Weight	Longitudinal		Lateral	
		kg	Arm mm	Moment mm-kg	Arm mm	Moment mm-kg
Extra-Long Basket Installation *S/N 94001-57 with top covers						
Low	94001-01-01	32.8	3454.4	113323.1	1252.2	41079.6
Center Bottom Cover Plates	94091-05	1.2	2982.0	3643.1	1252.2	1529.9
	94091-05	1.2	3454.4	4220.3	1252.2	1529.9
	94091-05	1.2	3926.8	4797.5	1252.2	1529.9
End Bottom Cover Plates	94091-06	1.3	2491.7	3269.7	1252.2	1643.2
	94091-06	1.3	4417.1	5796.1	1252.2	1643.2
End Cover Plates	94091-07	0.2	2242.8	507.4	1252.2	283.3
	94091-07	0.2	4668.5	1056.2	1252.2	283.3
High	94001-02-01	32.8	3454.4	113323.1	1234.4	40496.3
Center Bottom Cover Plates	94091-05	1.2	2982.0	3643.1	1234.4	1508.1
	94091-05	1.2	3454.4	4220.3	1234.4	1508.1
	94091-05	1.2	3926.8	4797.5	1234.4	1508.1
End Bottom Cover Plates	94091-06	1.3	2491.7	3269.7	1234.4	1619.9
	94091-06	1.3	4417.1	5796.1	1234.4	1619.9
End Cover Plates	94091-07	0.2	2242.8	507.4	1234.4	279.3
	94091-07	0.2	4668.5	1056.2	1234.4	279.3
Cheek Pod Compatible	94001-03-01	32.8	3454.4	113323.1	1305.6	42829.5
Center Bottom Cover Plates	94091-05	1.2	2982.0	3643.1	1305.6	1595.0
	94091-05	1.2	3454.4	4220.3	1305.6	1595.0
	94091-05	1.2	3926.8	4797.5	1305.6	1595.0
End Bottom Cover Plates	94091-06	1.3	2491.7	3269.7	1305.6	1713.2
	94091-06	1.3	4417.1	5796.1	1305.6	1713.2
End Cover Plates	94091-07	0.2	2242.8	507.4	1305.6	295.4
	94091-07	0.2	4668.5	1056.2	1305.6	295.4

Right side installations shown. Left side lateral arm is negative, installation P/N 94001-XX-02

Table 3.2 – Weight And Balance – Metric Units

NOTES

The removal or installation of covers and/or equipment requires the location to be determined to calculate the corresponding centre of gravity and moment arm in order to complete the weight and balance calculations for the aircraft.

Cargo Basket operator must confirm all W & B information.

Equipment operation, ELA and EMC requirements are not addressed by this structural provisions only Service Instruction.

4.0 PLACARD

The following placard is installed adjacent to the standard placard in order to alert the operator to the information in this service instruction.



Figure 4.0.1 – Placard

5.0 COVER PLATES

Requirements for installation of cover plates:

- The Lid's Top Cover Plates must be installed for egress safety purposes.
- Cover plates or equipment mounting plates must be installed to cover all cutouts in the basket structure before flight, using all provided fastener locations in the basket structure.
- Fasteners shall be AN3 bolts or MS27039 #10 structural screws of appropriate length, with NAS1149F0363P or NAS1149F0332P washers, secured with MS21044N3 or MS21042-3 nuts.

6.0 EQUIPMENT MOUNTING PLATES

Requirements for equipment mounting plates:

- See above Cover Plate requirements.
- Equipment and mounting plates must not extend outside the structure of the basket.
- Structural installation of round or tear-drop shape, low profile, GPS or similar antenna on the Lid Cover Plate/s is acceptable. Maximum height 1 in (25 mm).
- Do not add any additional attachment holes to the Cargo Basket Assembly.
- Basket modifications, cover plates, equipment mounting plates, and equipment loads cannot exceed the 300 lb maximum permissible distributed load limitation.

Basket load area = (11.5" wide x 96.5" long) / 144 sq. in / sq. ft = 7.71 sq. ft (0.7 sq. m)

Sample equipment limit load calculations where all five bottom cover plates are replaced with a one piece 0.25" thick x 12" wide x 96" long 6061-T6 aluminum mounting plate (with no viewing cutouts weight = 28.2 lb)

300 lb limit – 7.7 lb mods w/ top covers – 1.0 lb end covers – 28.2 lb mtg plate =
263.1 lb max cargo load

263.1 lbs / 7.71 sq. ft = 34.1 lbs/sq. ft max distributed load

- See FAA AC 43.13-2B, Chapter 1. Structural Data for guidance with respect to the installation of the Portable Survey Equipment.